

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-9 (canceled).

Claim 10 (currently amended): A semiconductor device comprising:
a single crystal substrate primarily including zinc oxide and having a zinc-polar surface and an oxygen-polar surface; and
at least one layer of thin film primarily including zinc oxide disposed on the zinc-polar surface; wherein
the at least one layer of thin film includes a multilayer film and the multilayer film defines a light-emitting layer;
the multilayer film includes an n-type contact layer, an n-type clad layer, an active layer, a p-type clad layer and a p-type contact layer; and
the n-type contact layer is a zinc oxide layer that is in contact with the zinc-polar surface of the single crystal substrate.

Claim 11 (previously presented): The semiconductor device according to Claim 10, wherein the at least one layer of thin film has zinc-polarity.

Claims 12-14 (canceled).

Claim 15 (currently amended): The semiconductor device according to Claim 4410, further comprising a transparent electrode disposed on the multilayer film.

Claim 16 (previously presented): The semiconductor device according to Claim

15, wherein the transparent electrode is made of Indium Tin Oxide.

Claims 17-19 (canceled).

Claim 20 (previously presented): A method for manufacturing a semiconductor device, comprising the steps of:

determining whether a surface of a single crystal substrate primarily including zinc oxide is a zinc-polar surface or an oxygen-polar surface; and

forming at least one layer of thin film primarily including zinc oxide on the zinc-polar surface; wherein

the at least one layer of thin film includes a multilayer film and the multilayer film defines a light-emitting layer;

the multilayer film includes an n-type contact layer, an n-type clad layer, an active layer, a p-type clad layer and a p-type contact layer; and

the n-type contact layer is a zinc oxide layer that is in contact with the zinc-polar surface of the single crystal substrate.

Claim 21 (previously presented): The method for manufacturing a semiconductor device according to Claim 20, wherein the thin film has zinc-polarity.

Claim 22 (previously presented): The method for manufacturing a semiconductor device according to Claim 20, further comprising the steps of:

providing a sputtering apparatus provided with a plasma generation chamber and a separate film formation chamber; and

performing sputtering treatment using the sputtering apparatus so as to form the thin film.

Claim 23 (previously presented): The method for manufacturing a semiconductor

device according to Claim 22, wherein the sputtering treatment is performed by a method selected from the group consisting of an electron cyclotron resonance plasma sputtering method, an inductively coupled plasma sputtering method, a helicon wave excited plasma sputtering method, an ion beam sputtering method, and a cluster beam sputtering method.

Claim 24 (previously presented): The method for manufacturing a semiconductor device according to Claim 20, wherein the thin film is formed by a method selected from the group consisting of a molecular-beam epitaxy method, a metal organic chemical vapor deposition method, a laser molecular-beam epitaxy method, and a laser abrasion method.

Claims 25-28 (canceled).